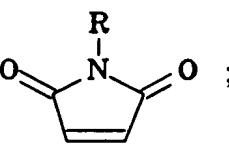


**WHAT IS CLAIMED IS:**

1. A method for dissociating a zinc ion from a CCHC zinc finger of a retroviral nucleocapsid protein, said method comprising contacting said retroviral nucleocapsid protein with a compound selected from the group consisting of:  
 disulfides having the formula R—S—S—R;

5 maleimides having the formula  ;

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 $\alpha$ -halogenated ketones having the formula X—CH<sub>2</sub>—C=O ;

hydrazides having the formula R—NH—NH—R;

nitric oxide and derivatives containing the NO group;

cupric ions and complexes containing Cu<sup>+2</sup>; and

ferric ions and complexes containing Fe<sup>+3</sup>;

wherein R is any atom or molecule, and X is selected from the group consisting of F, I, Br and Cl.

2. The method of claim 1, wherein said retroviral nucleocapsid protein is incorporated into an intact retrovirus.

3. The method of claim 1 wherein said retroviral nucleocapsid protein is an HIV-1 nucleocapsid protein.

4. The method of claim 1 further comprising detecting the dissociation of said zinc ion from the CCHC zinc finger of said retroviral nucleocapsid protein.

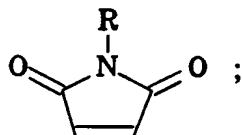
5. The method of claim 4 wherein detecting the dissociation of said zinc ion from the CCHC zinc finger of said retroviral nucleocapsid protein is carried out

using a method selected from the group consisting of capillary electrophoresis, immuno-blotting, Nuclear Magnetic Resonance (NMR), high pressure liquid chromatography (HPLC), detecting release of radioactive zinc-65, detecting fluorescence, and detecting gel mobility shift.

6. A method for inactivating a retrovirus, said method comprising contacting said retrovirus with a compound selected from the group consisting of:

disulfides having the formula  $R-S-S-R$ ;

maleimides having the formula



$\alpha$ -halogenated ketones having the formula  $X-CH_2-C(=O)-R$ ;

hydrazides having the formula  $R-NH-NH-R$ ;

nitric oxide and derivatives containing the NO group;

cupric ions and complexes containing  $Cu^{+2}$ ; and

ferric ions and complexes containing  $Fe^{+3}$ ;

wherein R is any atom or molecule, and X is selected from the group consisting of F, I, Br and Cl.

7. The method of claim 6, wherein said compound is selected from the group consisting of: Tetramethylthiuram Disulfide, Tetraethylthiuram Disulfide, Tetraisopropylthiuram Disulfide, Tetrabutylthiuram Disulfide, Dicyclopentamethylenethiuram Disulfide, Isopropylxanthic Disulfide, O,O-Diethyl

Dithiobis-(Thioformate), Benzoyl Disulfide, Benzoylmethyl Disulfide, Formamidine Disulfide 2HCl, 2-(Diethylamino)ethyl Disulfide, Aldrithiol-2, Aldrithiol-4, 2,2-Dithiobis(Pyridine N-Oxide), 6,6-Dithiodinicotinic Acid, 4-Methyl-2-Quinolyl Disulfide, 2-Quinolyl Disulfide, 2,2 Dithiobis(benzothiazole), 2,2-Dithiobis(4-Tert-Butyl-1-Isopropyl)-Imidazole, 4-(dimethylamino)phenyl disulfide, 2-Acetamidophenyl Disulfide, 2,3-Dimethoxyphenyl Disulfide, 4-Acetamidophenyl

Disulfide, 2-(Ethoxycarboxamido)phenyl Disulfide, 3-Nitrophenyl Disulfide,  
4-Nitrophenyl Disulfide, 2-Aminophenyl Disulfide, 2,2 Dithiobis(benzonitrile), p-Tolyl  
Disulfoxide, 2,4,5-Trichlorophenyl Disulfide, 4-Methylsulfonyl-2-Nitrophenyl Disulfide,  
4-Methylsulfonyl-2-Nitrophenyl Disulfide, 3,3-Dithiodipropionic Acid,  
15 N,N-Diformyl-L-Cystine, Trans-1,2-Dithiane-4,5-Diol, 2-Chloro-5-Nitrophenyl  
Disulfide, 2-Amino-4-Chlorophenyl Disulfide, 5,5-Dithiobis(2-Nitrobenzoic Acid),  
2,2-Dithiobis(1-Naphtylamine), 2,4-Dinitrophenyl p-Tolyl Disulfide, 4-Nitrophenyl  
p-Tolyl Disulfide, and 4-Chloro-3-Nitrophenyl Disulfideformamidine disulfide  
dihydrochloride.

8. The method of claim 6, wherein said retrovirus is selected from the group consisting of *Lentiviruses* and *Oncoviruses*.

9. The method of claim 6, wherein said retrovirus is a HIV-1 retrovirus.

10. The method of claim 6, wherein the method further comprises contacting said retrovirus with an anti-retroviral agent.

11. The method of claim 6, wherein the method further comprises contacting said retrovirus with a nucleotide analogue.

12. The method of claim 6, wherein the method further comprises contacting said retrovirus with AZT.

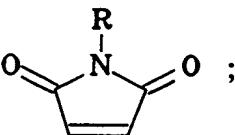
13. A method of selecting a compound capable of dissociating a zinc ion chelated with a CCHC zinc finger of a retroviral nucleocapsid protein, said method comprising:

- (a) contacting the CCHC zinc finger of said retroviral nucleocapsid protein with an electron acceptor; and
- (b) detecting the dissociation of said zinc ion from the CCHC zinc finger of said retroviral nucleocapsid protein.

14. The method of claim 13 wherein said electron acceptor is a compound selected from the group consisting of

disulfides having the formula R—S—S—R;

maleimides having the formula



<sup>5</sup>  $\alpha$ -halogenated ketones having the formula X—CH<sub>2</sub>—C=O ;

hydrazides having the formula R—NH—NH—R;

nitric oxide and derivatives containing the NO group;

cupric ions and complexes containing Cu<sup>+2</sup>; and

ferric ions and complexes containing Fe<sup>+3</sup>;

wherein R is any atom or molecule, and X is selected from the group consisting of F, I, Br and Cl.

15. The method of claim 13 wherein said step of detecting the dissociation of said zinc ion from the CCHC zinc finger of said retroviral nucleocapsid protein is carried out using a method selected from the group consisting of capillary electrophoresis, immuno-blotting, Nuclear Magnetic Resonance (NMR), high pressure liquid chromatography (HPLC), detecting release of radioactive zinc-65, detecting fluorescence, and detecting gel mobility shift.

16. A kit for selecting a compound capable of dissociating a zinc ion from a CCHC zinc finger of a nucleocapsid protein, said kit comprising a retroviral nucleocapsid protein and instructions for detecting the dissociation of said zinc ion from said nucleocapsid protein.

17. The kit of claim 16, wherein said retroviral nucleocapsid protein is supplied with the zinc ion chelated with the CCHC zinc finger of said retroviral nucleocapsid protein.

18. The kit of claim 16, wherein said retroviral nucleocapsid protein is derived from a HIV-1 retrovirus.

19. The kit of claim 16, wherein said nucleocapsid protein is incorporated in an intact retrovirus.

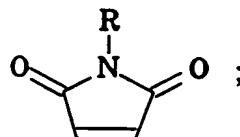
20. The kit of claim 19, wherein said retrovirus is selected from the group consisting of *Lentiviruses* and *Oncoviruses*.

21. The kit of claim 19, wherein said nucleocapsid protein is incorporated into an intact HIV-1 retrovirus.

22. The kit of claim 16, wherein said kit further comprises instructions for the selection of a compound selected from the group consisting of:

disulfides having the formula  $R-S-S-R$ ;

maleimides having the formula



$\alpha$ -halogenated ketones with the structure  $X-CH_2-C(=O)-R$ ;

hydrazides having the formula  $R-NH-NH-R$ ;

nitric oxide and derivatives containing the NO group;

cupric ions and complexes containing  $Cu^{+2}$ ; and

ferric ions and complexes containing  $Fe^{+3}$ ;

wherein R is any atom or molecule, and X is selected from the group consisting of F, I, Br and Cl.

23. The kit of claim 16, wherein said instructions are directed to detecting the dissociation of said zinc ion from said nucleocapsid protein using a method selected from the group consisting of capillary electrophoresis, immuno-blotting, Nuclear

Magnetic Resonance (NMR), high pressure liquid chromatography (HPLC), detecting  
5 release of radioactive zinc-65, detecting fluorescence and detecting a gel mobility shift.

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